

Galveston, Texas.—At 9 a. m., of the 31st, an imperfectly formed water-spout was observed over Galveston bay, moving in a northwesterly direction. At 9.15 a. m. a well defined water-spout was observed in the east over the Gulf. These water-spouts were of a leaden hue, and lasted about one-half hour.

MIGRATION OF BIRDS.

Geese flying southward.—Keokuk, Iowa, 22d; Portland, Oregon, 29th; LaCrosse, Wisconsin, 30th. *Flying northward.*—Cape Mendocino, California, 26th, 27th.

Ducks flying northward.—Bangor, Maine, 29th.

ZODIACAL LIGHT.

Pensacola, Florida, 1st, 2d, 3d.

Nashville, Tennessee, 3d, 31st.

Palestine, Texas, 1st, 2d, 14th, 16th, 18th, 27th, 29th, 30th.

SAND STORMS.

Fort Yates, Dakota, 18th, 19th, 21st.

NOTES AND EXTRACTS.

An interesting report upon the climate of Palestine, by Mr. Selah Merrill, United States consul at Jerusalem, has been received at this office through the Honorable Secretaries of State and War. It is regretted that sufficient space in the MONTHLY WEATHER REVIEW cannot be spared for the publication of the full report as prepared by Mr. Merrill. For this reason, eight tables, containing interesting miscellaneous data covering a period of twenty-two years, are not published. The letter of Mr. Merrill, transmitting this report to the Department of State, was written at the United States consulate, in Jerusalem, July 11, 1883. The following extract from the report referred to will be found of interest:

Seasons in Palestine.—There are in Palestine two seasons, a rainy season and a dry one. The shortest rainy season in twenty-two years has been one hundred and twenty-six days, and the longest two hundred and twenty-one days, while the mean duration of each has been one hundred and eighty-eight days. On the other hand, the shortest dry season for the same period was one hundred and thirty-four days and the longest two hundred and eleven days, while the mean duration of each was one hundred and seventy-seven days.

Commencement of the rain.—The time of the commencement of the rain is uncertain, and varies many weeks between the two extremes. In September the people of the country begin to talk about rain and to look for the tokens of it, but rain very seldom falls during that month, and further, that in eleven of the twenty-two years under consideration, no rain fell even in October. When rain does not fall until the middle or the last of November great anxiety and distress are caused by the delay. In four of the twenty-two years there was a slight fall of rain in September, but rain during this month is to be considered as exceptional.

The "early," "middle," and "latter" rains.—Every one is familiar with the terms, the "early" and the "latter" rains, which refer to parts of the rainy season. The rainy season, however, is really divided into three parts, and it is during the middle one of these periods that the most rain falls. It is very seldom that many days of rainy weather occur in succession, but whether the rainy periods are of one or of several days duration, they are sure to be followed by one or many days of fine weather, and these fine days of the winter and early spring months are some of the most enjoyable that the climate of Palestine affords. The "early" rains are depended upon to moisten the earth and fit it for the reception of seed, and hence it is a general signal for the commencement of plowing. The middle or heavy winter rains furnish the real water supply of the year. The earth is then saturated, springs are replenished, and cisterns are filled with water. The "latter" rain, which falls in gentle showers, is indispensable to the perfection of the grain. However copious may have been the winter rains, unless the "latter" rain falls, the harvest is wholly or in part a failure. Hence, this is looked for by the farmers especially, and by all the people of the land as well, with peculiar anxiety.

Connection of wind with rain.—Most of the rain storms come from a westerly direction. Of those noted during the period of twenty-two years, forty-nine were from the northwest; one hundred and fifty-six were from the west; and two hundred and thirty-eight were from the southwest. On one hundred and forty-nine occasions, however, an easterly wind immediately preceded the change which ushered in the rain. Not infrequently the direction of the wind changes during the storm; if it passes to the north the rain ceases; while a change from any quarter to the southwest usually indicates a continuance of the rain.

Temperature during rainfall.—On three hundred and sixty-nine occasions the temperature of the air became lower as the rain fell; on ninety occasions it rose slightly; and on forty-seven occasions it remained stationary, or nearly so, until the rain ceased.

Snow.—During twenty-two years eight seasons have passed without snow, against fourteen seasons, when snow has fallen. In general, snow falls in small quantities and soon melts, but occasionally there is a heavy fall, that, for instance, for the 28th and 29th of December, 1879, which was extremely heavy, measuring seventeen inches on a level.

Earthquakes.—Most of the earthquakes that have been noted occurred during the rainy seasons. Eight occurred during actual storms, and four of these occurred during snow storms. It is interesting to observe further that, in nearly every instance, they had been preceded or were followed by an easterly wind.

Barometer.—Jerusalem is 2,600 feet above the level of the Mediterranean, and the mean height of the barometer during twenty-one years has been 27.398 inches. The highest reading during this period was 27.816 inches on the 31st of December, 1879; the lowest was 26.972 inches on the 22d of April, 1863, and on the 3d of February, 1865; so that the extreme range has been 0.626 inch.

Cold, heat, and frost.—The coldest month in Jerusalem is February, in which month the mean temperature during the last twenty-two years has been 47° 9 (Fahr.). It rises, month by month, until August, when the mean temperature has been 76° 1 (Fahr.), and then sinks again, month by month, until the following February. The mean annual temperature during this period was 62° 8 (Fahr.). The hottest days of the year do not occur, however, in August, but usually in the months of May, June, and September. The lowest temperature registered by the thermometer during this period was 25° (Fahr.), which was on the 20th of January, 1864. In February and October, also, and once in April, a minimum of 32° and 30° has been noted. These cases are, however, notably exceptional.

In Jerusalem frost occurs on five or six nights in the course of a winter, but ice is rarely ever formed.

Winds.—A peculiar feature of the climate of Palestine is its strong winds. The physical conformation of the country has doubtless something to do with this. There is a ridge of rugged mountains running north and south which drops to a broad maritime plain on the west, and on the east to a deep chasm, sunk into the earth to a depth of 1,300 feet below the level of the Mediterranean, beyond which chasm (which is the Jordan valley) another ridge of mountains rises abruptly to a height equal to, or greater than, that of the western ridge, and beyond this, in turn, a vast table land stretches eastward to the Euphrates and southward to Arabia.

Both the inhabitants of the country and its crops are largely affected by the prevailing winds. The north wind is cold; the south warm; the east dry; and the west is moist. North and northwesterly winds prevail most in the summer months, when they are cool and refreshing, moderately dry and accompanied by few or no clouds. The north winds of winter are cold and sharp. Their coolness and sharpness, even in summer, are apt to produce sore throat, fever, and dysentery. Without the strong westerly winds of summer the climate of Jerusalem would be unbearable. Occasionally these winds do not blow for several days in succession, and at such times the heat becomes very great. As a rule this strong westerly breeze comes up every afternoon. It is felt at Jaffa, and at other places on the coast, as early as 9 or 10 a. m., but it does not reach Jerusalem until 2 to 4 p. m. Generally it subsides about sunset, but rises again later in the evening and sometimes continues through a great part of the night. Consequently, however hot the day may have been in Jerusalem, the nights during the summer season are almost always cool. Thus this wind, although often strong, disagreeable, and filling the air with clouds of dust, is a great blessing to the inhabitants; but at the same time it makes it very necessary for them to take precautions to protect themselves from its influence at night. Easterly winds are rare in summer, while they are common in each of the other seasons. The average for sixteen years has been three days of easterly winds for each month from June to September, and eleven days for each month from October to May, inclusive.

East wind and sirocco.—The east wind in winter is usually accompanied by a clear blue sky, and is dry, stimulating, and, if not too strong, is very agreeable. In the warmer months it is unpleasant and depressing from its great heat and dryness, and the haze and dust which occasionally accompany it. The southeast winds are those which are popularly termed siroccos, and which are most disagreeable. "The worst kind of sirocco," says Dr. Chaplin, "dries the mucous membrane of the air passages producing a kind of inflammation resulting in catarrh and sore throat; it induces great lassitude, incapacitating for mental as well as bodily exertion, in those who work in it; headache, with a sense of constriction as if a cord were tied around the temples, oppression of the chest, burning of the palms of the hands and soles of the feet, accelerated pulse, thirst and sometimes actual fever. It dries and cracks furniture, loosening the joints of tables and chairs, curls the covers of books and pictures hung in frames, parches vegetation, and sometimes withers whole fields of young grain. Its force is not usually great, but sometimes severe storms of wind and fine dust are experienced, the hot air burning like a blast from an oven, and the sand cutting the face of the traveller who has the misfortune to encounter it. This kind of air has a peculiar smell, not unlike that of the neighborhood of a burning brick kiln. Sometimes the most remarkable whirlwinds are produced, especially in the western plain near the hills, by the meeting of a strong east or southeast wind with a wind from the west or north. Clouds of sand fly about in all directions, now taking the traveller in front, now behind, and now on the side, and the gusts of wind are so violent as to blow weak persons from their horses, and to overturn baggage animals. The cold sirocco of winter often blows with much force, and when it comes from a few degrees north of east it is so cold and

piercing as sometimes to kill those who are exposed to it without sufficient clothing, instances of which occurred in the year of 1867."

It is an old and popular saying with the people in the country that a sirocco always lasts three days, but they have been known to last for twenty and even thirty days.

Clouds.—A noticeable feature of Palestine is its cloudless skies. There has been an average of one hundred and forty days in each year for sixteen years which were cloudless at 9 a. m. Still, during a large part of the year, clouds are present, and they affect the climate in various ways, but chiefly by moistening the atmosphere and by producing a shade which moderates the otherwise intense heat of the sun. The smallest amount of cloud during the year is in the months of July and August.

Dew.—During the winter months dew forms in Palestine in the ordinary way, and hence needs no special notice; but in the summer months, when the whole country is arid and there is no water to evaporate, the copious dews are brought entirely by the westerly winds from the sea. If no westerly breeze, or but a very light one, springs up towards the evening, there is no dew. The heavy dews of summer, which modify the climate so remarkably, differ from the ordinary dew in the manner of the deposition, being in great part precipitated in the air in the form of mist before being deposited on the earth. On summer evenings a few clouds are commonly to be seen in the western horizon soon after sunset. Later in the evening they increase in number, becoming lower and looser, and sweep past at no great elevation and often with considerable velocity. Towards midnight, or later, they become still more abundant and still lower, brushing the tops of the hills as they pass, and depositing much of their moisture upon them. Although dew may form even in summer in the usual way on clear nights, the surest sign of a copious deposition is the appearance of clouds, with a westerly wind, after sunset. Dew is most copious in the spring and in September and October, except during sirocco weather, when there is none. Clouds and a westerly wind at sunset and afterwards are not, however, always indications of a very damp night. It is the continuance of the westerly wind during the night that brings abundance of dew. Often at daybreak the sky is obscured by a heavy mist and the ground is wet as if rain had fallen. When the sun begins to act upon this mist, large masses of white cloud are formed, which, however, soon disappear before the great heat, leaving overhead only the usual blue sky of summer.

Unhealthy period of the year.—The unhealthy period of the year, the period in which the climatic diseases of the country, such as ophthalmia, fevers, and dysentery, are most prevalent, extends from May to October, inclusive. Six things strongly characterize this period:

1. Almost entire absence of rain.
2. Low atmospheric pressure with small range.
3. High temperature with great daily range.
4. Great dryness of the atmosphere.
5. A very small amount of cloud.
6. At the beginning of this period, a minimum of easterly winds.

While I have been completing this report the cholera has broken out in Egypt, and a strict quarantine has been established in all the Syrian ports. In this connection, therefore, it may be of interest to add a note respecting the climate of Jerusalem in October, 1865, when the cholera raged in this city with considerable violence. The period from the 7th to the 24th of that month was one of great and oppressive heat. During the whole eighteen days the sky was cloudless but overspread with a thin haze; the wind was from the northwest, north and east, but was so light as to be considered a calm, except on the 15th and 16th, when there was a light breeze from the east. The highest temperature was 94° (Fahr.), and on eleven days it rose to at least 90° (Fahr.). During the period the mean of the maximum temperatures was 89.1 (Fahr.), and the mean of the minimum temperatures was 65.8 (Fahr.), the mean temperature for the period being 77.4 (Fahr.). This high temperature, together with the calm, close, hazy atmosphere, was supposed to have some influence in spreading the cholera.

Dr. Gustavus Hinrichs, Director of the "Iowa Weather Service," has forwarded the following advance proof of the August report of that service:

August, 1883, was cold, clear, and dry, with northwesterly and southeasterly winds equally frequent, and calms numerous.

The mean temperature of the air was nearly two and a half degrees below normal. During the last thirteen years August has only once been colder, namely, in 1875; but in the thirty years preceding 1870, August was as cold four times in every ten years.

The low mean temperature of the month is mainly due to the first decade, which was six degrees below normal; but during this decade the sunshine was remarkably intense, the insolation thermometer averaging 141 degrees. The two last decades of the month were almost normal in temperature, while insolation was less than during the first decade.

The rainfall was low, except for northwestern Iowa, where a slight excess of rain fell. The frequency of rain was also low; almost the entire Mississippi slope had but one notable rain, which occurred on the 8th, from the Iowa to the Maquoketa valleys, on the 11th in Central Iowa, on the 14th in middle southern Iowa, and on the 27th in the northeast of the state. The number of thunder-storms has been very low.

No tornadoes nor extended storms have occurred in Iowa during August, but a remarkably severe hail storm cut a narrow swath on the 7th, from Sac to Cass counties, and some hail fell near Keosauqua on the 19th.

The number of fine days has been remarkably high, admirable for the threshing of small grain. The dry sunny weather has also favored the ripening of that corn, the seed of which was brought from a dryer or a considerably warmer state (Nebraska and Kansas).

This year's summer, that is the months of June, July, and August, averaged cool; while warmer than last year's summer, it was colder than that of 1877, but yet very much warmer than that of 1875, which was the coldest during the last twenty years. The rainfall has, for most parts of Iowa, been very favorably distributed, and the sky has been fair, especially during the latter half of summer. No serious tornado has visited Iowa this year during the rising season, and the chances of such storms during the falling season are much less.

The following extract is reprinted from the report of the Ohio Meteorological Bureau for August, 1883:

The average barometric pressure throughout the state was greater than for several months preceding, the mean being 30.066 inches. The barometer was unusually steady, the range being .542 inches, which is less than that for any month hitherto reported upon by this bureau. The maximum was 30.320 inches, observed at Oberlin, and the minimum was 29.778 observed at Cleveland.

The mean temperature was 68°.2, being about four degrees less than that for July, and somewhat more than four degrees lower than the normal mean for August. A maximum temperature of 98° was observed on the 22d at Waverly, Pike county, this being only .2 of a degree higher than the maximum for July.

The lowest temperature observed was 39° on the 30th, at Sidney, Shelby county. The greatest range for the whole state was, therefore, 59°, but the maximum range at one point was 48° on the 17th, at Waverly, and the minimum was 5° on the 29th, at Wooster. The mean daily range for the whole state was 22°.7.

The most remarkable feature of the weather for the month was the unusually small amount of precipitation. The mean rainfall was only 1.88 inches, which is less than any previously recorded, and barely half of the normal amount for August, which is 3.47 inches. It will be observed that, on an average, there were thirteen clear days, thirteen fair days, and four cloudy days; and that rain fell on seven days. The maximum rainfall was, at Lebanon, 4.60 inches, which is considerably above the normal amount, and the minimum was .70 inch, at Granville.

A storm of hail and wind of considerable violence visited Wooster and vicinity on the 28th. Some houses in process of erection were moved from their foundations, and many trees were blown down.

Professor W. C. Latta, Director of the "Indiana Weather Service," has forwarded the following meteorological summary for August, 1883:

LAFAYETTE, IND., September 9th, 1883.

The month of August, just past, has been remarkable for the uniform lowness of temperature and the small precipitations, the latter falling far below the monthly average for twelve years.

No storms of special importance have occurred, excepting, perhaps, the large amount of thunder and lightning which accompanied almost all the storms throughout the state.

Barometer.—The barometer at this station remained almost stationary during the greater part of the month. Mean, 30.131; maximum, 30.430; minimum, 29.720; the range being only .710.

Temperature.—The lowness of the temperature at this station is a fair average for that of the state. Mean, 68°.3; maximum, 89°, on the 22d; minimum, 55°, on the 30th. The greatest range in any one day occurred on the 31st. The range being 24°, falling from 80° at noon to 56° at 9 p. m.

Precipitations.—The precipitations reported have been uniformly small, far below the average for several years, except in Henry, Miami, and Rush counties, where the amounts were 6.35, 4.33 and 4.65 inches, respectively. But even this local variation will make the monthly average fall at least 1.00 inch below the monthly average for twelve years past.

Sun spots have been noticed quite frequently throughout the state, but the spots have been quite small in comparison with those seen in July.

Respectfully submitted,

PROF. W. C. LATTA.

REPORT OF THE MISSOURI WEATHER SERVICE, AUGUST, 1883.

The mean temperature during the month has been generally below the normal for August. At the central station it was 74.4, which is 2.3 degrees below Dr. Engelmann's normal for Saint Louis. In only seven instances, *i. e.*, in 1842, '49, '52, '55, '56, '66, and '75, has it gone below that of the past month since 1837, inclusive. In one instance, at Greenfield, the mean temperature for August was reported above that of the previous month. The highest mean reported was at Glasgow, in the central part of the state.

The maximum temperatures have been, almost all over the state, below the average maximum for August. In three instances, at Mascoutah and Cairo in Illinois, and at Chamolis, higher maximum temperatures were reported than for the month preceding. Warrenton reported the highest maximum.

The lower minimum temperatures were generally observed towards the latter part of the month. The lowest were on the 24th and at some few places on the 23d.

The rainfall at the central station was not much more than one-half of the normal amount for August. Taking the mean of the two Saint Louis sta-

tions heard from, there was a rainfall which is 0.96 below the normal for Saint Louis. There has been a general scarcity of rain throughout the state, the crops suffering very much from the continued drought. The heaviest rainfall was along the southern border of the state. Through the central part of the state, extending from the northwestern to the southeastern border, it has been very light. At Oregon the amount was 2.72 inches below a normal for

that place taken from a series of observations extending through twenty-nine years.

Hail was reported at Lexington on the 16th and at Carthage on the 23d. Cairo reports severe wind storms on the 10th and 23d.

A. RAMEL, *Assistant in charge.*

Washington University, September 9, 1883.

Abstract of meteorological observations for the month of August, 1883, as reported to the Bureau of Agriculture, &c., of Tennessee, by voluntary observers in co-operation with General W. B. Hazen, Chief Signal Officer, U. S. A.

| County. | Station. | Latitude north. | Longitude west of Washington. | Temperature. | | | | | | Wind. | | Number of days— | | | | | | | | | | | | On which rain fell, including hail, snow, and sleet. | Total rainfall, including hail, snow, and sleet (in inches). | Observers. | |
|------------|------------------------|-----------------|-------------------------------|-----------------|-----------------|-----------------|------------------|----------|---------|-----------------------|-----------------|-----------------|--------|--------|-------|---------|----------|------|------|--------|--------------|--------------|--------------|--|--|-----------------|------------------------|
| | | | | Mean of 7 a. m. | Mean of 2 p. m. | Mean of 9 p. m. | Average monthly. | Highest. | Lowest. | Prevailing direction. | Greatest force. | Scale o. 10. | Date. | Clear. | Fair. | Cloudy. | Aurorus. | Dew. | Fog. | Frost. | Lunar halos. | Solar halos. | Hail storms. | | | | Thunder storms. |
| Anderson | Andersonville | 36 15 | 80 45 | 64 | 81 | 70 | 71 | 94 | 21 | 50 | 30 | | | 17 | 6 | 8 | | 12 | | | | | | | 4 | 1.88 | J. K. P. Wallace, 30d. |
| Bedford | Flat Creek | 35 30 | 9 40 | 70 | 81 | 69 | 72 | 89 | 22 | 48 | 31 | nw. | br. | 28 | 12 | 9 | 10 | | | | | | | 9 | 3.36 | William Hart. | |
| Blount | Maryville, 960 ft. | 35 45 | 7 00 | 68 | 83 | 60 | 70 | 92 | 22 | 58 | 30 | w. | br. | 24 | 8 | 11 | 12 | | 5 | | | | | 9 | 3.77 | W. H. Henry. | |
| Campbell | Caryville | 36 00 | 7 30 | 65 | 85 | 65 | 60 | 88 | 19 | 52 | 31 | se. | br. | 14 | 13 | 9 | 9 | | 5 | | | | | 8 | 2.65 | Fletcher Smith. | |
| Carroll | Huntingdon | 36 00 | 11 20 | 70 | 85 | 74 | 78 | 89 | 22 | 60 | 31 | n. | br. | 23 | 13 | 13 | 5 | | 24 | 4 | | | | 1 | 6 | 2.33 | A. W. Hawkins. |
| Carroll | McKenzie, 515 ft. | 36 10 | 11 30 | 72 | 85 | 77 | 78 | 93 | 1 | 64 | 25 | n. | l. 3. | 15 | 21 | 10 | | | 20 | 4 | | | | 3 | 6 | 1.93 | John Brown. |
| Cheatham | Kingston Springs | 36 10 | 10 04 | 68 | 83 | 76 | 76 | 91 | 22 | 52 | 31 | n. | br. | 28 | 20 | 6 | | | | | | | | 2 | 4 | 5.29 | W. J. Inman. |
| Coffee | Manchester | 35 20 | 9 04 | 66 | 81 | 69 | 71 | 90 | 22 | 55 | 31 | n. | br. | 10 | 11 | 10 | | 3 | 3 | | | | | 2 | 6 | 6.38 | Wiley Hickerson. |
| Coffee | Beech Grove, 1,050 ft. | 35 30 | 8 06 | 62 | 82 | 70 | 71 | 89 | 19 | 49 | 31 | e. | br. | 17 | 4 | 10 | | | | | | | | 4 | 7 | 4.42 | B. F. Cheatham. |
| Cumberland | Grassy Cove | 36 00 | 8 00 | 66 | 75 | 63 | 67 | 89 | 15 | 43 | 30 | n. | br. | 27 | 15 | 9 | 7 | | | 2 | | | | 9 | 4 | 4.78 | Nettie M. Stratton. |
| Crockett | Gadsden | 35 45 | 12 00 | 70 | 81 | 74 | 75 | 91 | 22 | 61 | 31 | w. | br. | 18 | 8 | 5 | | | | | | | | 4 | 4 | 3.86 | M. T. Moore. |
| Davidson | Nashville | 36 10 | 9 44 | | | | 74 | 92 | 19 | 55 | 31 | no. | br. | 21 | 14 | 14 | 3 | | 24 | 11 | 1 | 1 | | 7 | 10 | 4.39 | L. N. Jesunofsky. |
| DeKalb | Smithville (near) | 35 00 | 8 40 | 68 | 81 | 72 | 73 | 86 | 22 | 59 | 30 | n. | br. 4. | 1 | 10 | 11 | 10 | | | | | | | 3 | 5 | 3.80 | P. C. Blumh. |
| Dyer | Dyersburg | 36 15 | 12 20 | 69 | 82 | 71 | 73 | 93 | 20 | 58 | 31 | n. | br. | 6 | 13 | 10 | 8 | | | | | | | 2 | 6 | 4.00 | L. Hughes. |
| Franklin | Sewanee, 2,100 ft. | 35 12 | 8 50 | 68 | 76 | 67 | 69 | 84 | 20 | 61 | 4 | no. | br. | 15 | 4 | 12 | | | | | | | | 14 | 3 | 3.22 | H. Easter. |
| Gibson | Trenton, 450 feet | 36 00 | 11 58 | 67 | 80 | 71 | 73 | 88 | 21 | 59 | 26 | no. | h. 7. | 15 | 16 | 10 | 5 | | 27 | 8 | | | | 2 | 5 | 4.57 | A. S. Currey. |
| Gibson | Milan, 440 ft. | 35 55 | 11 46 | 66 | 83 | 71 | 73 | 93 | 22 | 52 | 31 | no. | br. | 15 | 19 | 4 | 8 | | | | | | | 4 | 5 | 4.26 | M. D. L. Jordan, M.D. |
| Hawkins | Rogersville | 36 22 | 5 57 | 67 | 81 | 67 | 71 | 90 | 22 | 61 | 3 | w. | br. | 5 | 5 | 12 | | 28 | 1 | | | | | 8 | 1 | 1.61 | Thos. F. Walker. |
| Hardeman | Bolivar | 35 18 | 12 00 | 69 | 83 | 73 | 74 | 91 | 22 | 60 | 31 | n. | br. | 22 | 5 | 4 | | | 2 | | | | | 2 | 5 | 2.42 | E. P. McNeal. |
| Hardin | Savannah | 35 20 | 11 40 | 66 | 84 | 69 | 72 | 91 | 22 | 55 | 31 | n. | br. 4. | 24 | 21 | 6 | 4 | | | 3 | 1 | | | 2 | 2 | 2.03 | H. R. Hinkle. |
| Haywood | Brownsville | 35 36 | 12 20 | | | | 76 | 98 | 23 | 54 | 31 | n. | br. | 24 | 24 | 7 | | | | | | | | 3 | 3 | 1.03 | Daniel Bond. |
| Henry | Paris | 36 33 | 11 25 | 69 | 74 | | 71 | 88 | 21 | 64 | 29 | w. | br. 5. | 22 | 13 | 5 | | | | | | | | 3 | 3 | 2.00 | J. J. Travis. |
| Humphreys | Waverly | 36 00 | 10 40 | 64 | 80 | 76 | 74 | 90 | 22 | 50 | 31 | no. | br. | 8 | 14 | 9 | | | | | | | | 6 | 6 | 3.07 | D. R. Owen. |
| Lincoln | Howell | 35 15 | 9 30 | 68 | 84 | 70 | 74 | 92 | 13 | 56 | 31 | n. | br. | 15 | 4 | 16 | 11 | | 12 | | | | | 14 | 3 | 3.27 | O. R. Hatcher, M.D. |
| Marion | Fosterli, 1,200 ft. | 35 10 | 8 50 | 59 | 78 | 66 | 67 | 90 | 20 | 45 | 30 | n. | br. | 18 | 3 | 10 | | | | | | | | 4 | 4 | 4.74 | Charles Foster. |
| Maury | Hardison's Mills | 36 00 | 10 00 | 61 | 77 | 71 | 70 | 90 | 21 | 55 | 30 | n. | br. 3. | 5 | 10 | 10 | | | | 4 | | | | 8 | 4 | 4.74 | Calvin Hardison. |
| McNairy | McNairy Station | 35 00 | 12 00 | 69 | 87 | 71 | 74 | 92 | 22 | 60 | 31 | n. | l. | 15 | 12 | 4 | | | | | | | | 5 | 1 | 1.05 | J. H. Blakely. |
| Montgomery | Sailor's Rest | 36 24 | 10 35 | | | | | | | | | e. | br. | 9 | 14 | 8 | | | | | | | | 4 | 1 | 1.25 | John Minor. |
| Overton | Livingston, 966 ft. | 36 23 | 8 17 | 67 | 81 | 66 | 70 | 90 | 14 | 54 | 30 | sw. | br. | 8 | 10 | 13 | | | | | | | | 7 | 4 | 4.42 | J. A. Laughlin. |
| Rutherford | Florence Station | 35 53 | 9 26 | 70 | 85 | 71 | 74 | 94 | 23 | 63 | 30 | e. | br. | 16 | 9 | 6 | | | 3 | | | | | 8 | 4 | 4.80 | C. F. Vandeford. |
| Rhea | Grand View, 1,635 ft. | 35 45 | 7 48 | 65 | 75 | 64 | 67 | 85 | 23 | 44 | 30 | sw. | br. 4. | 28 | 14 | 9 | 8 | | 22 | 10 | | | | 9 | 2 | 2.04 | Hattie R. Stratton. |
| Smith | Riddloton, 548 feet. | 36 19 | 9 07 | 67 | 80 | 70 | 72 | 89 | 21 | 54 | 31 | n. | br. | 7 | 19 | 5 | | | | 2 | | | | 4 | 5 | 6.28 | S. P. Fergusson. |
| Smith | Alexandria (near) | 35 30 | 8 56 | 73 | | 73 | 73 | 82 | 21 | 65 | 17 | n. | br. | 3 | 20 | 8 | | | 3 | | | | | 5 | 4 | 4.23 | Irenus Beckwith. |
| Williamson | Franklin | 35 50 | 9 48 | 65 | 80 | 71 | 72 | 87 | 20 | 54 | 31 | n. | br. | 29 | 11 | 8 | 12 | | | | | | | 7 | 4 | 4.51 | Samuel Henderson. |
| Warren | McMinnville | 35 45 | 8 45 | 70 | 80 | 71 | 73 | 90 | 19 | 60 | 31 | n. | br. | 29 | 12 | 9 | 10 | | 1 | | | | | 7 | 7 | 2.99 | R. M. Reams. |

